

ABSTRACT

The present invention is directed to methods and systems for taking measurements relating to subterranean formations. The methods and systems effectively compress data and thus facilitate more efficient data transmission. The methods and systems are capable of automatically varying data compression rates during a measurement operation. The variable data compression capability facilitates reliable collection of measurement data at faster and/or constant logging speeds. The data compression methods and systems may be applied to any measurement operation relating to subterranean formations, including, but not limited to: acoustic wireline logging measurements, acoustic logging-while-drilling measurements, electromagnetic measurements, nuclear magnetic resonance measurements, and resistivity measurements.